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ABSTRACT

This document contains overviews of current research, insights from teachers and tutors, and considerations of such issues as metacognition, choice of operations, and the testing of problem-solving skills. Papers include: (1) "Historical Perspectives on Problem Solving in the Mathematics Curriculum" (George M. A. Stanic and Jeremy Kilpatrick); (2) "For the Study of Mathematics Epistemology" (James G. Greeno); (3) "Treating Mathematics as an Ill-Structured Discipline" (Lauren B. Resnick); (4) "Problem Solving as Everyday Practice" (Jean Lave, Steve Smith, and Michael Butler); (5) "Problem Solving in Context(s)" (Alan H. Schoenfeld); (6) "Metacognition: On the Importance of Understanding What You Are Doing" (Joseph C. Campione, Ann L. Brown, and Michael L. Connell); (7) "Reflections about Mathematics Problem-Solving Research" (Frank K. Lester, Jr.); (8) "Uses of Macro-Contexts to Facilitate Mathematical Thinking" (John Bransford, Ted Hasselbring, Brigid Barron, Stan Kulewicz, Joan Littlefield, and Laura Goin); (9) "Choosing Operations in Solving Routine Story Problems" (Larry Sowder); (10) "Assessing Problem Solving: A Short-Term Remedy and a Long-Term Solution" (Sandra P. Marshall); (11) "Testing Mathematical Problem Solving" (Edward A. Silver and Jeremy Kilpatrick); (12) "Teaching as Problem Solving" (Thomas P. Carpenter); (13) "Teaching Mathematical Problem Solving: Insights from Teachers and Tutors" (Richard J. Shavelson, Noreen M. Webb, Cathleen Stasz, and David McArthur); (14) "Learning to Teach Mathematical Problem Solving: Changes in Teachers' Conceptions and Beliefs" (Alba G. Thompson); (15) "Preparing Teachers to Teach Mathematical Problem Solving" (Nel

Noddings); (16) "Teacher Education and Mathematical Problem Solving: Some Issues and Directions" (Randall I. Charles); (17) "Teaching and Assessing Mathematical Problem Solving: Toward a Research Agenda" (Edward A. Silver). Lists of participants in working groups are appended. (YP)

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